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Carex vulpinoidea Michx. and allied Species.

BY E. P. BICKNELL.

A careful study of *Carex vulpinoidea* Michx., continued from the field into the herbarium, has made it plain to me that this species, as accepted, is a composite one, embracing at least three or four distinct plants on our eastern seaboard alone. One of these plants is an old species, here revived—the *Carex setacea* of Dewey, which I am satisfied should never have been discredited; it will be recalled that it was endorsed by Dr. Torrey. The other two seem never to have been distinguished, and reference to all the citations in the published synonymy of *C. vulpinoidea* discovers no name applicable to either.

CAREX VULPINOIDEA Michx.

Culm $1\frac{1}{2}^{\circ}$ – $2\frac{1}{2}^{\circ}$ tall (1° – 3°), sharp-angled, very scabrous on the angles above, or throughout, leafy. Leaves long and narrowly attenuate, mostly exceeding the culm, 1° – 2° long, $1''$ – $2''$, sometimes $2\frac{1}{2}''$ wide, often somewhat appressed and crowded. Head at maturity greenish or dull brown, narrow, commonly $1\frac{1}{2}'$ – $3'$ long, $2''$ – $3''$ wide, the spikelets below either in contiguous or separated compound clusters or in short, appressed or ascending densely-flowered branches which often appear like oblong or linear spikes; larger spikelets narrowly oblong, the smaller subglobose. Small forms of the plant show the spikes aggregated into linear heads only $1\frac{1}{2}'$ – $2'$ long; in more attenuate forms the heads may be much interrupted and elongated, even slender and inclined, reaching a length of six inches, the lower branches an inch or more distant on the rachis. Occasionally in stout forms the head is much congested throughout and $4''$ – $6''$ wide; rarely it is looser and bears at the base closely compound ascending branches an inch in length. All the clusters of the head are subtended by setaceous, often flexuous bracts, the lowermost usually well-developed and elongated, even $8'$ long. Perigynia very small, numerous, loosely spreading, the conspicuous points often somewhat recurved, at maturity greenish or pale brown, sometimes yellowish-brown, membranous, flattish, mostly distinctly few-nerved on the outer face, frequently nerveless on inner face, ovate, often from a dilated or sub-cordate base, acuminate into a mostly slender, smooth to serrulate-hispid, sharply-toothed beak which usually equals or nearly equals the body of the perigynium; body of perigynium $\frac{1}{2}''$ – $\frac{3}{4}''$ long and wide, more or less corky in the margins basally or at the sides. Achene broadly ovate-oblong, small, $\frac{1}{2}''$ or less long. Scales small, whitish with a green keel, becoming pale

dull brown or sometimes yellowish-brown, little noticeable in the spikelet excepting their awns which, though not usually conspicuous, are evident and, with their spreading points of the perigynia, give the heads a sharply roughened appearance.

In low grounds and meadows, and along ditches, often growing in dense tufts. Canada to Florida and Texas, west at least to Minnesota and Kansas.

CAREX XANTHOCARPA n. sp.

Culm longer and often stouter than in *C. vulpinoidea*, $1\frac{1}{2}^{\circ}$ – 4° tall (1° – 5°), much exceeding the leaves, scabrous on the angles above, very smooth and bluntly triangular or even subterete below. Leaves fewer and less crowded and appressed than in *vulpinoidea*, mostly under 1° long, rarely $1\frac{1}{2}^{\circ}$, $1\frac{1}{2}''$ – $3''$ wide. Head early yellowish or tawny, narrowly oblong, sometimes ovoid, mostly dense and uninterrupted, $\frac{3}{4}''$ – $2\frac{1}{4}''$ long, $3''$ – $6''$ wide, the spikes closely glomerate-subcompound throughout, or the lowermost more distinctly compound and looser, but not separated, forming ovoid, somewhat spreading clusters. Bracts mostly short and inconspicuous, the lowermost not often noticeably developed. Spikes plump, ovoid, densely many-flowered, the perigynia ascending, often slightly incurved, finally somewhat spreading, becoming bright yellow, markedly plano-convex and narrowly sharp edged, mostly ovate-elliptic from a cuneate pointed base, or sub-rhomboidal (those low in the spikes sometimes with a broader, more abrupt base), nearly beakless, or graduated into a short, very rough-margined, minutely two-toothed beak. Walls of the perigynium thickish and subcoriaceous, but not corky-thickened in the margins, either nerveless or obscurely few-nerved on the somewhat turgid outer face, often with a median ridge on the flat inner face; body of perigynium about twice as large as in *vulpinoidea*, $1''$ or more long, $1''$ or less wide. Achene broadly oblong, about $\frac{3}{4}''$ long. Scales longer than in *vulpinoidea*, but shorter awned, early becoming bright tawny or yellowish-brown and very noticeable in the spikes.

Scarcely tufted, growing in low fields or in open levels on higher ground.

In the cover of *C. vulpinoidea* in the Columbia Herbarium, I find specimens as follows:

Cambridge, Mass., 1845, E. Tuckerman, Jun.

Ohio, Sullivan.

The plant is common at New York and is unmistakable when once it is understood. Not infrequently it is found growing with *C. vulpinoidea*, from which it is clearly distinct.

CAREX XANTHOCARPA ANNECTENS n. var.

Lower and more slender than *C. xanthocarpa*, $1\frac{1}{2}^{\circ}$ – 3° tall; culms trigonous, scabrous above, smooth and sometimes subterete below, exceeding the leaves. Leaves mostly $6'$ – 1° long, often very narrow, $1''$ – $2''$ wide. Head short, $\frac{3}{4}'$ – $1\frac{1}{2}'$ long, $3''$ – $4''$ wide, green, varying to dull yellowish or greenish-tawny, the spikes noticeably bracteate, the lowest bract frequently exceeding the head. Spikes globose to ovoid-oblong, mostly distinct and loosely aggregated below the apex of the head, or the lowest, or lower two or three, slightly separated, either all simple and distinct or the lower subglomerate with smaller spikelets at their bases. In small forms the head may consist of only 6–8 globose more or less distinct spikes. Spikes relatively few-flowered, the perigynia finally loosely spreading, mostly exceeded by the awns of the scales, which gives the head a somewhat bristly appearance. Perigynia dilated-ovate or suborbicular (rarely narrower) mostly from a broad base, narrowed or abruptly contracted to the short rough-margined beak, sometimes slightly corky in the edges, few-nerved in the middle of the outer face, often broader than long, the body $1''$ or more broad, $1''$ or less long. Achene broadly ovate-oblong or suborbicular, nearly truncate at base, $\frac{1}{2}''$ or more wide.

About damp thickets in low grounds and in moist woods.

Common at New York. In the Columbia College Herbarium are specimens from Staten Island (Britton) and North Carolina (Curtis).

In the present state of our knowledge of it this is a very puzzling plant. It has an aspect of its own, which makes it easy to recognize in the field, so far as I have observed it, yet certain herbarium specimens suggest that it shades into reduced forms of *xanthocarpa*. I have seen no specimens which were not clearly separable from *C. vulpinoidea*, although the general appearance of the head is often closely similar. Smaller forms having heads of few simple spikes sometimes bear a singularly close resemblance to *C. Mullenberghii enervis*.

The plant differs from *C. xanthocarpa* mainly in simpler, looser and more bracteate, greener heads, more loosely-flowered spikes with spreading perigynia, longer-awned, paler scales which appear more bristly in the spikes, broader and more greenish perigynium, broader achene. From *vulpinoidea* it differs in shorter leaves, longer culm, shorter and simpler heads, larger and broader perigynium, with much shorter and rougher beak, larger achene.

I suspect that a better knowledge of this plant will show that it is sufficiently individualized to stand as a species.

CAREX SETACEA Dewey.

Culm $1\frac{1}{2}^{\circ}$ – 4° tall, mostly exceeding the long leaves, trigonus, often with concave sides, sharply serrulate-scabrous on the angles above, smooth below. Leaves 1° – 2° long, $1'$ – $3'$ wide. Head about $2'$ long ($1\frac{1}{2}'$ – $2\frac{1}{2}'$), $3''$ – $5''$ wide, silvery-green to chestnut brown, mostly narrow with much broken outlines, often with short ascending branches at the base. Spikelets mostly ovoid-oblong, those terminating the branches sometimes attenuate and loosely flowered at the base, simple and crowded above, becoming somewhat alternate and glomerate-clustered or compound below, the lowest cluster sometimes separated. Head throughout either setaceously short-bracteate, the lowest bract not more prominent than those above, or all the bracts short and inconspicuous. Spikelets rather densely flowered, chaffy, the scales conspicuous, nearly concealing the appressed to subspreading perigynia. Perigynia lanceolate, graduated from a truncate base into a narrow beak, and smooth and nerveless or nearly so (*setacea*), or elliptic-lanceolate to ovate, with less abrupt base and short beak and mostly somewhat wrinkled-nerved (*C. scabrior* Sartwell), $1\frac{1}{4}''$ – $1\frac{1}{2}''$ long, $\frac{1}{2}''$ – $\frac{3}{4}''$ wide, the edges of the beak strongly serrulate or subaculeolate hispid. Achene larger than in *vulpinoidea*.

As compared with *vulpinoidea* the perigynium is without corky-thickened margins, and is more evenly graduated into a much rougher beak; the scales are larger, giving a chaffy appearance to the spikes, and are silvery-hyaline (*scabrior*) or becoming chestnut (*setacea*), in contrast with the smaller greenish-white or yellowish-brown scales of *vulpinoidea*, and are mostly more acuminate into a more delicate awn; the lower bract of the head is never much elongated or foliaceous, and altogether the head has a distinctly different appearance. I feel assured that a close acquaintance with this plant in life and a full series of specimens would only serve to emphasize its distinctness from *C. vulpinoidea*.

The description of *Carex setacea* here given is drawn to include the *Carex scabrior* of Sartwell. A type specimen of the latter (*Carices Americae Septentrionalis*. H. P. Sartwell, M. D., No. 72) is in the Herbarium of Columbia College, and the plant is well figured among Boott's illustrations of *C. vulpinoidea* (Ill. *pl.* 409). With this guidance I have been able without any hesitation to refer to *scabrior* rather than to *setacea*, a specimen collected at New

York. While it would be ill advised to propose a revival of *C. scabrior* on the evidence at command, attention may well be drawn to the very probable distinctness of the two plants.

Two Californian Saxifrages.

SAXIFRAGA FALLAX.

Perennial, fibrous-rooted, propagating by abundant subterranean short rhizomatous offsets; stem scapiform, 8–12 inches high, loosely cymose-paniculate at summit, the whole minutely and sparsely glandular-hispidulous, but with no villous hairs; leaves thin, ovate or oval, subcordate, or truncate at base, saliently toothed or only repand; calyx very deeply cleft, the segments reflexed; petals white, obovate-oblong, obtuse, emarginate; filaments very short; anthers green; mature carpels divergent almost from the base.

A northeast Californian and subalpine ally of the widely distributed *S. Californica*, differing from that in its short subterranean offsets, its emarginate petals and almost completely divergent carpels. I have it only from Lassen's Peak, where it was collected by Mrs. Austin long since, and from above Donner Lake, where I obtained it last summer.

SAXIFRAGA APRICA. *S. umbellulata* Greene, Eryth. 1: 222. The name first assigned to this small, but common and well marked species of sunny exposures near the crest of the Sierra, must yield to the much earlier *S. umbellulata* of Hook. f. & Thoms.

EDW. L. GREENE.

Proceedings of the Club.

ANNUAL MEETING, TUESDAY EVENING, JANUARY 14TH, 1896.

The President occupied the chair and there were 39 persons present.

The following were elected active members: Miss Mary Edgar, Mr. S. Sidney Smith, Mrs. S. Sidney Smith, Miss Mary Appleton, Miss Mary Farley, Miss Laura H. Knupfer, Mr. C. L. Allen, Mr. B. A. Gilbert, Mr. Per Axel Rydberg, Mr. Oliver A. Farwell.

The Finance Committee reported through the Secretary that no business had been before them for transaction during the year.